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Section 1
Site Assessment and Mitigation Program

I. INTRODUCTION TO SAM MANUAL 2004

The Site Assessment and Mitigation (SAM) Manual 2004 is a compilation of guidelines designed to aid responsible parties (RPs), their consultants, and others who perform environmental investigations and remedial actions at contaminated sites in the County of San Diego (Figure 1-1). Because they are not laws, regulations, or ordinances, these guidelines have no legal status. They do, however, provide a framework to improve the communication process among regulators, RPs, and consultants, and to provide a clear and uniform direction to the environmental site investigation and remediation process. These guidelines represent a written commitment by the County of San Diego Department of Environmental Health (DEH) to evaluate submitted work according to agreed upon standards.

These guidelines have been developed with the cooperation of the consulting industry, organized technical work groups, the military, the Regional Water Quality Control Board (RWQCB) staff, and DEH Site Assessment and Mitigation Program (SAM) staff.

II. TECHNICAL ADDITIONS TO SAM MANUAL 2004

- Small Diameter Well Variance Guideline

III. GOALS

SAM's primary goal is to protect public health, water resources, and the environment from releases of petroleum products from a UST by providing oversight of assessments and clean-ups in accordance with the California Health and Safety Code and the California Code of Regulations (CCR). The secondary goal is to address these concerns in a cost efficient manner, for both the RP and the State Reimbursement Fund (Fund). A third goal is to provide third party review of voluntary environmental reports to allow property transactions to be completed and to ensure the protection of public health, water resources, and the environment. Strategies used to implement the program to attain these goals include advocating preventive and corrective measures and assuming an education/consultation role with industry. An open line of communication is encouraged so the highest level of customer service can be provided to the public. For SAM to be able to protect public health and the environment, comprehensive, accurate reports must be submitted for evaluation. These reports must be signed by a registered professional and must contain conclusions and recommendations obtained from the results.

IV. ORGANIZATION

SAM includes the site assessment and well programs. The organizational chart in the beginning of this manual provides direct phone numbers and e-mail addresses for SAM staff. Refer to Appendix G for a listing of all relevant agency contact information.

The SAM office is on the third floor of the J. R. Mills Building located at:

1255 Imperial Avenue, Third Floor
San Diego, CA 92112-9261

However, written correspondence should be sent to:

Department of Environmental Health
Attn: _____
P.O. Box 129261
San Diego, CA 92112-9261

General phone number for DEH/SAM: (619) 338-2222.
Fax number: (619) 338-2315.
Web Site: http://www.sdcounty.ca.gov/deh/lwq

V. REGULATORY AUTHORITY

Federal, state, and local laws and regulations regarding hazardous substances have been developed with the intent of protecting public health, the environment, surface water, and groundwater resources. Over the years the laws and regulations have evolved to deal with different aspects of the handling, treatment, storage and disposal of hazardous substances. The overlapping of laws and regulations make them difficult to understand and implement. The laws and regulations that guide SAM include, but are not limited to:

- California Health and Safety Code (CHSC)
  - Division 20, Chapter 6.5, Hazardous Waste Control
  - Division 20, Chapter 6.7, Underground Storage of Hazardous Substances
  - Division 20, Chapter 6.75, Petroleum Underground Storage Tank Cleanup
  - Division 101, Part 3, Chapter 4, Article 5, (Section 101480 - 101490), Administration of Public Health, Local Health Departments

- California Water Code
  - Division 7, Water Quality (Porter-Cologne Water Quality Control Act)

- California Code of Regulations (CCR)
  - Title 22, Division 4, Chapter 30, Hazardous Wastes
  - Title 23, Division 3, Chapter 16, Underground Storage Tanks

- San Diego County Code
  - Title 6, Division 5, Permit Fees
  - Title 6, Division 7, Chapter 4, Wells
  - Title 6, Division 8, Chapter 10, Underground Storage of Hazardous Substances.

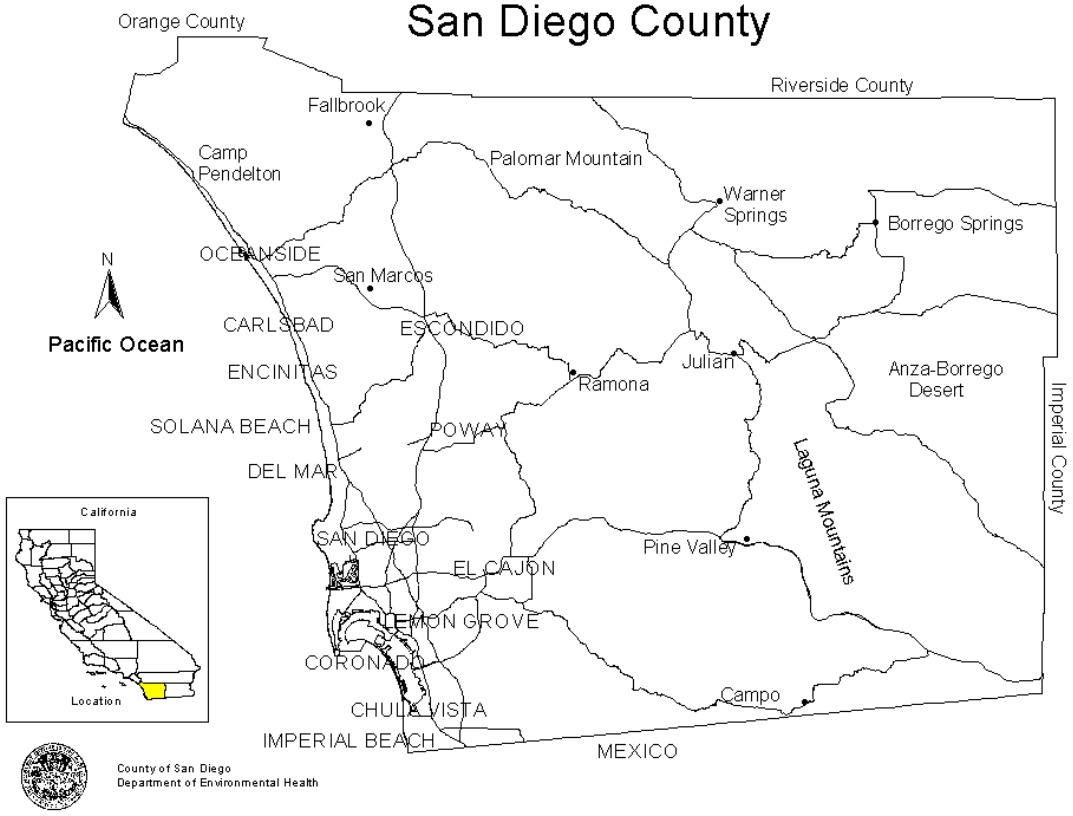
VI. COUNTY'S SITE ASSESSMENT AND MITIGATION PROGRAM

The Site Assessment and Mitigation Program (SAM), within the Land and Water Quality Division of the County of San Diego's Department of Environmental Health (DEH), consists of project managers, field technicians, supervisors, and support staff, whose primary purpose is to protect human health, water resources, and the environment within San Diego County (Figure 1-1). SAM programs include:

- Monitoring Well Program (permits and inspection of monitoring wells and borings)
- Local Oversight Program (LOP) (site assessment and remediation review of petroleum UST related cases)
- Voluntary Assistance Program (VAP) (consultation, overview, and report concurrence on sites with potential contamination from various sources)
- Site Designation
- Environmental Aspects of Property Redevelopment

DEH public records, where files can be reviewed, are also associated with SAM. Files available for public review include site assessment-related correspondence and reports, UST compliance information, permits, complaints, and industrial compliance inspection files.

Figure 1-1
San Diego County



VII. LOCAL OVERSIGHT PROGRAM

SAM has entered into a contract agreement with the State Water Resources Control Board (SWRCB) to oversee remedial actions for leaks from petroleum-containing USTs in San Diego County. Under state authority, SAM operates the LOP for the oversight of petroleum UST-related projects in the County. The Contract is renewable upon mutual consent of the parties for the life of the Federal Underground Storage Tanks Trust Fund Corrective Action Program. This contract provides the revenue for SAM to conduct its oversight activities. All reports and correspondence in this program are public record, and are available for public review.

VIII. VOLUNTARY ASSISTANCE PROGRAM

SAM provides consultation, project oversight, report review, concurrence, and site closure letters on projects pertaining to properties contaminated with hazardous substances. SAM can provide third-party review of environmental reports to allow completion of property transactions and to ensure the protection of public health, water resources, and the environment. This assistance can be customized to meet the needs of the applicant.

The California Water Code and the California Health and Safety Code require those responsible for the release of hazardous substances to take all necessary corrective action to remedy (clean up) a release. The California Health and Safety Code Section 101480 through 101490 authorizes a local agency to provide oversight of environmental assessment and remediation activities if requested.

The following individuals and entities may apply and enter into a Voluntary Assistance Program (VAP):

- Present and past property owners,
- Lessees, renters, or operators of property or owners of equipment where a hazardous substance was located or used, and/or
- Present and past dischargers, generators, storers, treaters, transporters, disposers, and handlers of hazardous substances.

On sites contaminated by sources other than USTs, and where DEH has agreed to provide regulatory review, the corrective action process should be similar in principle to that defined by Article 11 for USTs. VAP applicants and their consultants should consult with DEH, as early in their project as possible, concerning any site-specific corrective action requirements. In general, DEH/SAM requires that all corrective actions be conducted in accordance with the policies, guidelines, and procedures contained in this manual (refer to Section 3.II).

A "Voluntary Assistance Program Application for Assistance" form must accompany an initial request for DEH assistance. A copy of this application is provided in Appendix C.II. This form is an agreement and notifies the requester of DEH's charge for cost recovery.

DEH/SAM is required to notify the California Department of Toxic Substances Control (DTSC) and the RWQCB before beginning review of a VAP project. SAM can also refuse to accept a VAP application or may withdraw from a VAP agreement.

Costs for DEH staff time expended on oversight of the site assessment and remediation activities (including report review) will be billed to the applicant. The current fee for such work is $105.00 per

hour (Section 65107(h), San Diego County Code). An initial payment of $210.00 (2 hours of time) will be required at the time the "Voluntary Assistance Program Application for Assistance" form is submitted. Additional staff review time will be billed quarterly. The cost of recovery hourly rate is subject to change.

IX. SITE DESIGNATION PROGRAM

DEH/SAM can be designated by the Cal-EPA Site Designation Committee as the Administering Agency for overseeing environmental investigations and remediation of hazardous waste releases on properties in San Diego County. When appointed by the Cal-EPA Site Designation Committee, SAM will be authorized to supervise all aspects of site cleanup activities up to completion and is required to verify compliance with all applicable state and local laws and requirements. For this purpose, SAM will be granted sole jurisdiction over all activities necessary to respond to hazardous material releases according to California Health and Safety Code, Section 25264 (a). This oversight is conducted through our VAP and as such guidelines can be tailored to address tasks associated with Site Designation. As the Administering Agency, SAM will consult with other appropriate agencies and will maintain communications among agencies to provide consistencies in the progress of the projects and in the issuance of permits and concurrence letters, etc. VAP is a streamlined program that can easily fulfill the requirements of the Cal-EPA Site Designation Committee.

X. ENVIRONMENTAL ASPECTS OF PROPERTY REDEVELOPMENT

For large-scale and complex environmental projects, where several parcels and/or a variety of sources of contamination are involved, the VAP can be utilized to address site investigation and remediation actions. In these cases, there is usually a voluntary effort that involves property owners, property developers, governmental agencies, and the community in implementing a corrective action to promote long-term productive reuse of the properties. The guideline has been prepared to facilitate site investigation and remediation actions in a more streamlined fashion.

The focus of this guidance on property redevelopment is twofold: to first briefly describe the redevelopment process in general and then to further describe how the services of the Department of Environmental Health, Site Assessment and Mitigation Programs (DEH-SAM) can be used in the process. These programs include the Local Oversight Program (LOP), the Voluntary Assistance Program (VAP) and the Site Designation Program (SDP). This guideline can be used to implement property development projects, including Brownfield projects, in San Diego County when DEH-SAM is the local agency.

Property redevelopment based on the historic activities and future plans for any given site can involve many issues. The issues related to environmental contamination are the primary focus of this document. Contaminated surface water, groundwater, soil, marine sediments, and air emissions can all be significant issues at a given site. Contamination issues range from leaking USTs that held petroleum products to complex issues that may include metals, volatile organic compounds (VOCs), polynuclear aromatic hydrocarbons (PAHs), and other contaminants of concern.

If the primary environmental issues on a given site are related to water quality, human health impacts, or proper management of contaminated soils and groundwater, it is important to consider with which regulatory agency to work. Decisions cannot be made without first undertaking a sound evaluation of the environmental impacts (or indicators of potential impacts), reporting requirements, and desired agency action.

A. Phases of Property Redevelopment

The property redevelopment process generally involves four phases of activity: initiation, evaluation, transaction, and implementation. This process requires the involvement of numerous stakeholders that may include buyers, sellers, developers, redevelopment agencies, lenders, community groups, and government and regulatory agencies.

The redevelopment process is not linear, and not every project requires full use of all phases of the process for effective implementation. The process works best when the interests of all stakeholders are addressed early in the process and stakeholders work together to resolve any outstanding issues.

1. Initiation

The redevelopment process begins with a vision of reuse and/or restoration of a property or properties based on a public need or business opportunity. One or several of the following potential stakeholders can initiate this process.

Sellers, Developers, and Buyers may initiate the redevelopment process by identifying a property or properties for redevelopment based upon their belief that the project will yield an appropriate return on investment and provide economic benefits to the community.

Redevelopment Agencies may initiate the redevelopment process through dialogue with potential buyers, sellers, developers, or government agencies. A governmental redevelopment agency may initiate the process and act as a facilitator, investor, or partner with a developer in the redevelopment of a particular property or properties.

Lending Institutions will likely become involved in a redevelopment project as part of the necessary funding and accept a portion of the financial risk associated with the project. Many lenders condition their financing of a project upon the receipt of a comfort letter or closure letter from the lead regulatory agency.

Community groups, local residents, workers, organizations, and institutions often have a vision, plan, and expectations for redevelopment of areas where they live and work.

Early in this process it is important to identify the various regulatory issues that will apply to the redevelopment project. This can include regional issues such as planning, building, and zoning and local issues such as water, sewer, and fire infrastructure. Since land is being redeveloped, there can be numerous environmental issues related to chemical and/or material used on the properties.

2. Evaluation

At the initial evaluation phase, the project proponents need to evaluate the acceptable financial and legal risks as well as the needed level of assurances related to liability and indemnification from chemically contaminated soil and/or groundwater. Identifying these issues up front is critical to the timeliness of the redevelopment process.

During the evaluation phase, the viability of proceeding with the redevelopment project will be evaluated and resolved. In addition to real estate issues, a number of environmental and

legal issues must also be evaluated. A comprehensive evaluation and analysis may be undertaken to determine the viability of the envisioned redevelopment project.

The successful implementation of the redevelopment process is dependent on a clear understanding of the environmental conditions and identification of the environmental risks associated with the property or properties. Environmental issues can range from chemical contamination to archeological issues.

Identifying environmental risks on a site may include performing Phase I and Phase II environmental site assessments, evaluating the risk to potential receptors, and evaluating corrective action alternatives. The success of a redevelopment project is often dependent on how effectively current and future risks posed by the property are communicated to the community and other interested parties. It is important to note that risk communication should take place throughout the redevelopment process.

The three programs, discussed in Sections 1.VII through 1.IX, provide regulatory oversight for redevelopment projects when DEH-SAM is the lead agency. These programs are the Local Oversight Program (LOP), Voluntary Assistance Program (VAP), and Site Designation Program (SDP). The specific procedures for the LOP are outlined in Section 1.VII of the SAM Manual. Specific procedures for the VAP and SDP are outlined in Sections 1.VIII and 1.IX, respectively, and Appendix C of the SAM Manual under the VAP.

3. Transaction

Property ownership can change during any part of the redevelopment process. Planning and communication between all parties is critical to ensure a smooth redevelopment process. Commonly, buyers and sellers may seek protections such as:

- Preliminary and pre-closing agreements,
- Representation and warranties,
- Environmental covenants,
- Indemnification, and
- Environmental insurance.

4. Implementation

Demolition, renovation, and corrective action will likely occur during the implementation phase. The schedule must be flexible to ensure that the most cost-effective solution provides a reduction in long-term risk to the project. Key issues during the implementation phase are:

- Implementation of the approved corrective action,
- Achieving the target cleanup levels for the property,
- Implementation of the monitoring, remedial operation, and/or engineering controls,
- Regulatory compliance on all environmental issues, and
- Successful completion of the project within schedule and budget.

Figure 1-2 shows the process discussed above, along with detailed steps and/or information needed within each phase. Table 1-1 provides additional details on the overall involvement and needs of the various stakeholders. Table 1-2 provides a listing of the various regulatory agencies that may be involved at the local, state, and federal levels.

FIGURE 1-2
THE REDEVELOPMENT PROCESS

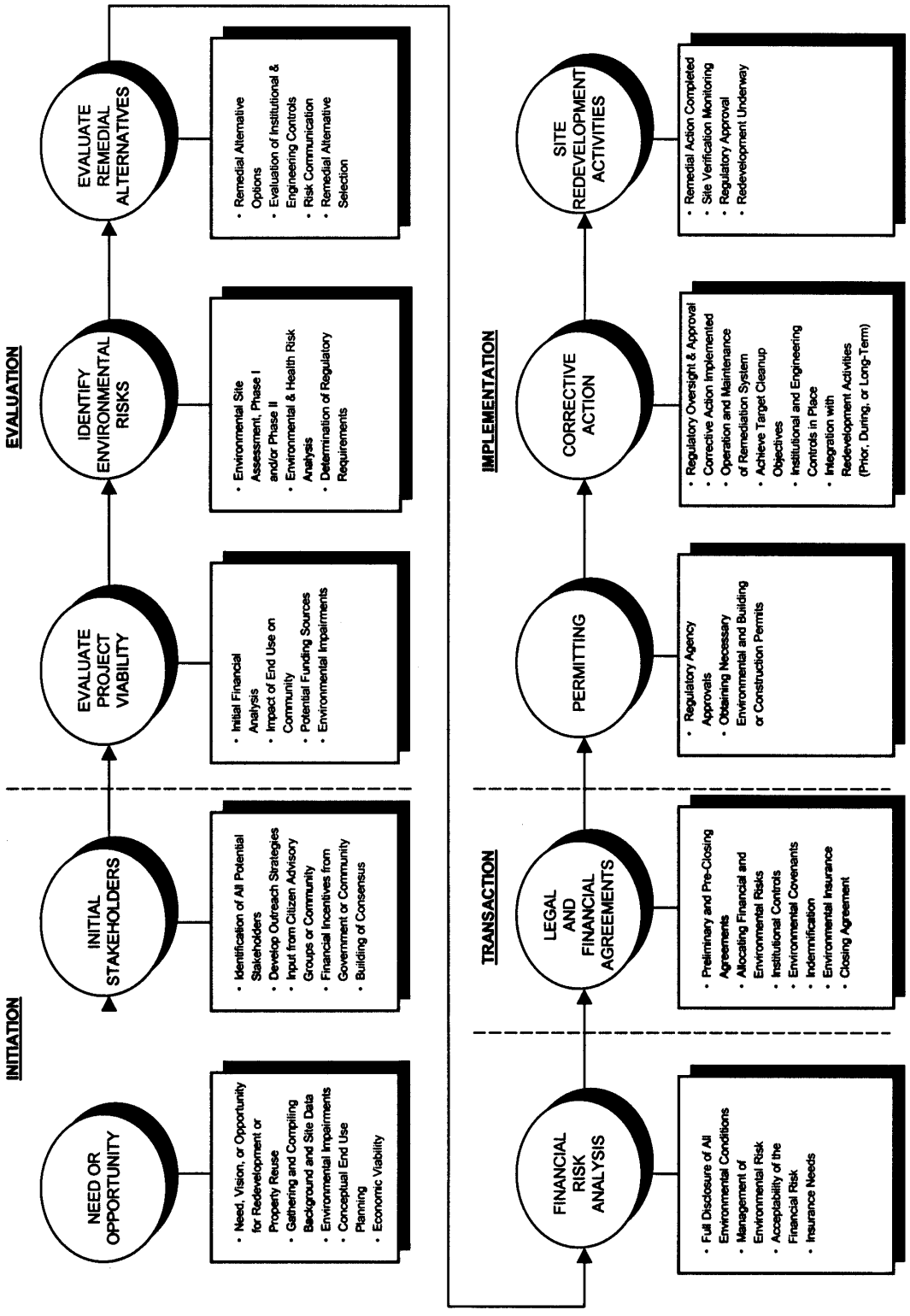


TABLE 1-1: STAKEHOLDERS GOALS AND OBJECTIVES

STAKE-HOLDERS	GOALS AND OBJECTIVES			
	INITIATION PHASE	**EVALUATION PHASE**	**TRANSACTION PHASE**	**IMPLEMENTATION PHASE**
Seller	• Enhancement of property value and least costly and effective technical approaches for the corrective action. • Identifying options to transfer risk and reduce liability.	• Finding a solution that enhances the property value. • Achieving least costly and effective technical solutions for the corrective action. • Identifying options to transfer risk and reduce liability.	• Meeting the financial and liability goals. • Implementing a cost-effective and timely corrective action with limited long-term liability.	• Timely completion of the project and acceptable return on investment.
Developer	• Opportunity to add value to the property and return on investment. • Management of liabilities for environmental conditions caused by others.	• Understanding the opportunities and barriers and reducing the uncertainty associated with time and costs for completion.	• Meeting the project requirements and anticipated return on investment.	• Timely completion of the project and acceptable return on investment. • Institutional and engineering controls in place.
Buyer	• Understanding the opportunities and barriers. • Purchase of a property with potential return on investment and benefit to the community. • Management of liabilities for environmental conditions they did not cause.	• Understanding the opportunities and barriers. • Understanding the financial/liability risk management options.	• Meeting the financial and liability goals. • Implementing a cost-effective and timely corrective action with limited long-term liability.	• Timely completion of the project and acceptable return on investment.
Redevelopment Agencies	• Economic revitalization. • Increased tax base.	• Incorporation of community feedback on the community redevelopment and revitalization goals for the property.	• Ensuring community understanding of the economic considerations and planned use of the property.	• Achieving the redevelopment goals including economic revitalization and increased tax base. • Meeting the environment and public health requirements. • Institutional and engineering controls in place.
Lenders		• Understanding the factors that influence the financial and environmental risks.	• Meeting acceptable financial objectives.	• Meeting the established financial objectives.
Insurer		• Understanding the factors that influence the financial and environmental risks.	• Meeting acceptable risk management objectives.	• Ensuring that the redevelopment is consistent with the insured conditions.
Community Groups	• Improvement of physical and aesthetic conditions. • Community and economic revitalization.	• Participation in the evaluation process and development of appropriate alternatives for restoration of the redevelopment or Brownfield property.		
City/County Government		• Evaluation of the proposed end use. • Initiation of the process to modify the land use designations that will be consistent with the redevelopment goals and requirements of the community.		• Establishing the land use designations that are consistent with the redevelopment project. • Meeting the planning and end use goals. • Monitoring the proper implementation of grading and construction requirements.
Environmental Regulatory Agencies	.	• Ensuring that the corrective actions are protective of human health and the environment. • Ensuring community understanding of the environmental objectives. • Ensuring that the requirements of multiple regulatory agencies are satisfied.		• Meeting the environment and public health requirements. • Institutional and engineering controls in place.

TABLE 1-2: REGULATORY AGENCIES INVOLVED IN REDEVELOPMENT PROCESS

LOCAL	STATE OF CALIFORNIA	FEDERAL
County Department of Environmental Health (DEH)	Department of Toxic Substances Control (DTSC)	Environmental Protection Agency (EPA)
Air Pollution Control District (APCD)	Regional Water Quality Control Board (RWQCB), San Diego Region	U.S. Fish and Wildlife Department
City/County Fire Departments	CA Department of Fish and Game	U.S. Coast Guard
City/County Planning Departments	Office of Environmental Health and Hazard Analysis (OEHHA)	Occupational Safety and Health (OSHA)
City/County Building Departments	CA Occupational Safety and Health (Cal-OSHA)	
City/County Department of Public Works	CA Environmental Protection Agency (Cal-EPA)	
County Department of Agriculture/Weights and Measures	CA Integrated Waste Management Board (CIWMB)	
	CA Coastal Commission	
	CA Department of Health Services	

Note: Website addresses for regulatory agencies are cited in Appendix G.

B. Selection of Lead Agency

In selecting the lead agency one must consider the end result desired from the regulatory community. There is a range of potential conclusions to regulatory oversight, from the relatively simple comfort letter that can take several forms, to a closure letter, to the comprehensive "Certificate of Completion." If the developer needs a Prospective Purchaser Agreement (PPA), it may be impossible to obtain unless the Regional Water Quality Control Board (RWQCB) or Department of Toxic Substances Control (DTSC) is lead at the site. Even then, the process could be involved and lengthy.

The project proponent or the redevelopment agency should select a lead agency that will be able to provide a coordinated and appropriate level of oversight to resolve the chemical impacts associated with the project. The selection of a lead agency depends on the needs of the redevelopment project, or legal or financial requirements. Generally, one of the following agencies will function as the lead agency. Table 1-3 provides a general listing of the services available from the various agencies.

TABLE 1-3: SELECTING A LEAD AGENCY- SERVICES PROVIDED

DEH-SAM	• Technical assistance and oversight through VAP, LOP, and SDP • Timely approvals for selecting and implementing appropriate corrective action • Historical information on environmental conditions • Flexible approach in implementation • Risk-based and property-specific decisions • Limits liabilities through issuance of comfort letters and closure letters; however, will not provide Prospective Purchaser Agreements. Additionally, comfort letters and closure letters issued under the VAP are not binding on other regulatory agencies.
RWQCB	• Technical assistance and oversight • Evaluation and approvals of corrective action proposals related to the beneficial uses of groundwater and surface water as a basis for corrective action • Limits liabilities through Prospective Purchaser Agreements, covenants not to sue, and comfort letters. Prospective Purchaser Agreements and covenants not to sue may be difficult to obtain and generally involve a lengthy process.
DTSC	• Technical assistance and oversight • Limits liabilities through Prospective Purchaser Agreements, covenants not to sue, and comfort letters although Prospective Purchaser Agreements and covenants not to sue may involve a lengthy process.

1. County of San Diego Department of Environmental Health (DEH)

DEH-SAM has three programs available to provide regulatory oversight of the investigation and cleanup of chemically contaminated soil and groundwater in San Diego County. These programs are:

- **Local Oversight Program (LOP)** – This program is for known releases from USTs. The LOP is limited to USTs that contain or formerly contained petroleum products. This program is handled through contracting with the State Water Resources Control Board for regulatory oversight and through state funding for the oversight.

  Work performed under the LOP can, in certain circumstances, qualify for reimbursement from the California UST Fund. There are policy limitations to this program and reimbursement requires close coordination with DEH-SAM.

- **Voluntary Assistance Program (VAP)** – This program, with a few exceptions, covers all other types of contamination sources. The VAP is administered locally by DEH-SAM and all oversight costs are covered under a cost agreement between the agency and the project coordinator. This program uses a local fee-for-service cost recovery.

  Current regulations designate the RWQCB and the California DTSC as the lead agency over water quality and hazardous waste respectively. Under the Authority of Section 1014801 or Section 252642 of the California Health and Safety Code, DEH-SAM can be selected as the lead agency upon approval from these agencies or by the DTSC Site Designation Program as defined in Sections 25260 through 25268.

[1] Division 101, Part 3, Chapter 4, Article 5, Section 101480-101490 of the California Health and Safety Code
[2] Division 20, Chapter 6.65, Section 25260-25268 of the California Health and Safety Code

Section 101480 (Remedial Action Agreement) - DEH-SAM performs oversight and agrees to comply with the regulations of the RWQCB and DTSC. All work is completed to the standards of both RWQCB and DTSC; however, the decisions by DEH-SAM do not supersede the authority of the RWQCB or DTSC.

Prior to commencing oversight, DEH-SAM will notify the RWQCB and the California DTSC of initiation of a remedial action agreement. This will allow these agencies to notify DEH-SAM of their concerns.

Under the VAP, DEH-SAM provides consultation, review, and report concurrence on projects pertaining to properties that are suspected to be contaminated with hazardous substances. DEH-SAM provides third-party review of environmental reports to allow property transactions to be completed and to ensure the protection of public health, water resources, and the environment. This assistance can be customized to meet the needs of the applicant. This assistance is voluntary on the part of DEH-SAM and any comfort letter or closure letter received from the VAP is not binding on any other agency.

DEH-SAM can refuse to accept a VAP application or withdraw from a VAP agreement when sufficient technical staff is not available or when it recognizes that other more qualified agencies should address the specific environmental issues of concern.

- **Site Designation Program (SDP)** - The Site Designation Program is administered by the California Environmental Protection Agency (Cal-EPA) and is outlined in Section 25260-25268 of the California Health and Safety Code. The SDP provides regulatory authority to other agencies that are found to be more appropriate to oversee the investigation and/or cleanup of chemically impacted sites. Projects completed under the SDP are managed and funded under the VAP.

  DEH-SAM performs oversight and agrees to comply with the regulations of the RWQCB and DTSC. All work is completed to the standards of the RWQCB, DTSC, and other interested agencies (e.g., Department of Fish and Game, U.S. Fish and Wildlife). The process followed is more formal in structure than the remedial action agreement process. Decisions made by DEH-SAM are processed through the various agencies and are equivalent of the final decision for those agencies.

  Site Designation is a consultative process, whereby DEH-SAM takes the responsibility of coordinating the distribution of information and collection of recommendations from various California agencies, and concludes, if successful, with a Certificate of Completion. This process can be combined with action under the Polanco Act if a redevelopment agency, as recognized under the Health and Safety Code, is involved. It is recommended that consultation with any agency whose jurisdiction is triggered by site conditions be undertaken before attempting to file a petition for "lead agency" with the DTSC.

2. California Regional Water Quality Control Board (RWQCB)

The RWQCB is responsible for enforcing regulations to protect the water quality of the waters of the State. This includes the protection of both groundwater and surface waters. The RWQCBs have developed Basin Plans for their regions, which outline the water quality goals and standards that they enforce. San Diego County covers two RWQCB Regions: the San Diego Region (Region 9) and the Colorado Region (Region 7).

Within each region, the RWQCB has regulatory authority over any discharger to the land or water. Commonly, the RWQCB oversees water quality issues through their various program areas.

These areas are:

- Underground storage tanks,
- Above ground storage tanks,
- Spills, leaks, incidents,
- Waste discharge unit,
- Land disposal unit and
- Storm water unit.

Like DEH-SAM, the RWQCB can be designated as the lead agency. Not only are comfort letters and Certificates of Completion available options with the RWQCB, but a prospective purchaser agreement (PPA) may also be an alternative option. A PPA typically offers a covenant not to sue by the regulatory agency.

3. California Department of Toxic Substance Control (DTSC)

The Site Mitigation Program within the DTSC oversees the investigation and remediation of hazardous substance releases in California. The DTSC program identifies and assesses potential releases. Additionally, they provide oversight of remedial actions. The DTSC Site Mitigation Program's regional operations provide project management oversight at:

- Federal National Priority List sites (federal Superfund Sites),
- Federal military installations,
- Responsible Party lead sites, and
- State-funded sites (state Superfund Sites).

The DTSC has several programs designed to assist at Brownfield sites, which include the Voluntary Cleanup Program (similar to the DEH-SAM VAP program); the Expedited Remedial Action Program (SB 923); and the Private Site Management Program (AB 1876). For further information about DTSC programs check the Internet at http://calepa.ca.gov.

4. Redevelopment Agency Participation

A governmental redevelopment agency can participate in many diverse ways with the redevelopment of properties. The redevelopment agency may initiate the process and act as a facilitator, investor, or partner with a developer in the redevelopment process. The redevelopment agency may also assist the developer in compelling the cleanup of the property and adjacent properties by responsible parties. Redevelopment agency assistance under the Polanco Redevelopment Act provides immunities for the redevelopment agency. These immunities may be transferable to developers and their lenders.

The redevelopment agency may provide:

- Overall planning for community or area-wide redevelopment.
- Financial and tax incentives for developers and financial institutions to participate in the project.
- Federal and state grants, loans, or funding for Brownfield redevelopment projects.
- Coordination among governing and regulatory agencies.
- Implementation of community outreach programs.

The Polanco Redevelopment Act (Health and Safety Code Section 33459.1 et seq.) is a tool available only through the offices of a redevelopment agency. The Act requires a redevelopment agency to enter into an agreement with one of the regulatory agencies described above, compelling the assessment and, potentially, the remediation of hazardous substance releases. Responsible parties are liable to the redevelopment agency for costs incurred in the process, under conditions stated in the statute. Upon completion, Polanco immunities (potentially coupled with a Certificate of Completion) are granted to the agency and its successors and assigns. In other words, the redeveloper can be held immune and harmless from pre-existing environmental conditions that are remediated pursuant to an agreement with DEH-SAM or one of the other environmental agencies noted in the Act.

C. When DEH-SAM Is Selected as Lead Agency

The site assessment and mitigation process used by DEH-SAM is outlined in Figure 1-3.

The VAP, LOP, and SDP are similar in that DEH-SAM reviews the investigations for completeness and adequacy of assessment and remediation. The investigation and remedial actions need to follow the procedures outlined within the SAM Manual.

The LOP is more structured and stepwise due to state regulations while the VAP and SDP allow a multitask approach. In LOP cases the source of the release is known. In VAP and SDP cases, it is common that the source of the release or releases is not known or multiple sources are represented. Due to the complexity of VAP and SDP cases, use of a multitask approach is commonly more appropriate.

The differences in these programs are described in Section 1.IX.B above.

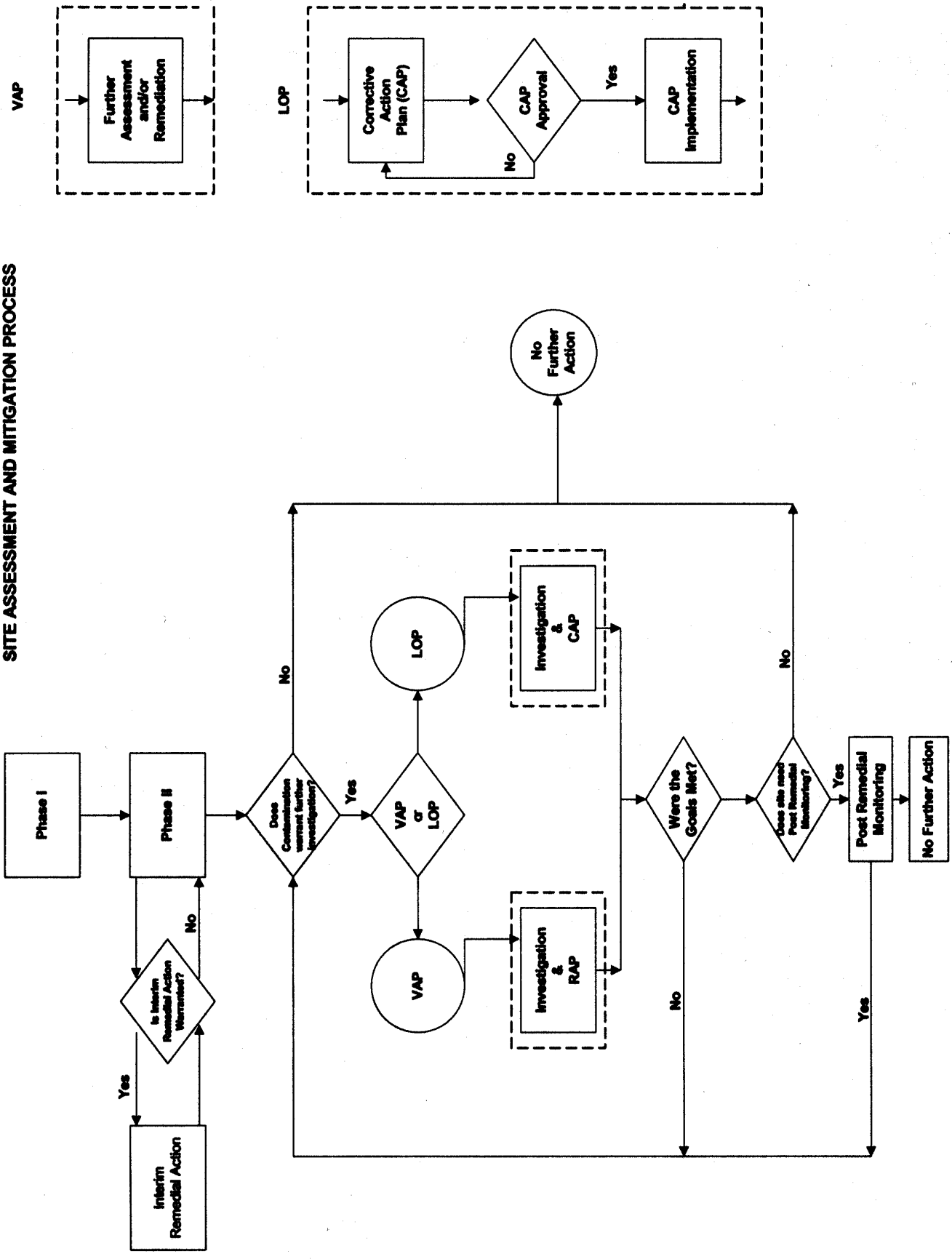


Figure 1-3
SITE ASSESSMENT AND MITIGATION PROCESS

XI. MONITORING WELL PROGRAM

DEH/SAM's Monitoring Well Program is the agency designated to administer and enforce state standards and local ordinances pertaining to the construction, alteration, maintenance, and destruction of monitoring wells. The goals of the San Diego County DEH Monitoring Well Program are:

- To permit the drilling, installation, and destruction of borings and wells,
- To educate the public regarding potential monitoring well hazards, and
- To minimize any risks to public health with compliance in bringing deficient monitoring wells to proper standards.

For information regarding monitoring well permitting, design, and construction standards, please see Section 5 and Appendix B.

XII. SERVICES PROVIDED

SAM oversees the installation, repair, and closure of USTs; the installation, repair, reconstruction, and destruction of borings, monitoring wells, and cathodic protection wells; and investigation and remediation of UST-related sites. Any activities involving the installation, repair, and closure of USTs and the installation, repair, reconstruction, and destruction of borings, monitoring wells, and cathodic protection wells must be completed under an approved permit from DEH. The DEH Hazardous Materials Division (HMD) oversees the monitoring and operation of existing UST facilities.

SAM staff are assigned LOP and VAP projects based upon major RP groups and on a rotating basis to review site assessment and remediation reports. If you have a question regarding a particular site, you will be directed to contact the SAM staff person assigned to the project.

Please refer to the SAM organizational chart or SAM web page for the phone numbers of the applicable departments/personnel to contact. Copies of boring/monitoring well and UST removal permit applications are contained in Appendix B.II.

A. Duty Desk

SAM has a staff person dedicated to answering public questions on a weekly rotating basis. For general SAM-related questions, call the general DEH number (619) 338-2222, and ask for the SAM Duty Specialist. The Duty Specialist will try to answer your questions or direct you to the correct person to contact.

B. Web Page

SAM maintains a web page within the County of San Diego's web site. The web page contains general SAM information and updates, a listing of Frequently Asked Questions (FAQs), a staff directory, access to an environmental site listings database (which contains environmental assessment, UST, permit, and site inspection information), links to other County sites, and copies and updates of the SAM Manual available for downloading. The web page can be accessed at:

http://www.sdcounty.ca.gov/deh/lwq

The web page is updated frequently. There is also a feedback and comments section, where you can share your thoughts on the web page and services provided.

C. Review of Public Records

Several types of files are available for public review at DEH offices, including site assessment related correspondence and reports, UST compliance information, permits, complaints, and industrial compliance inspection files. DEH must receive a written request prior to the file review. A copy of the file review request form is included in Appendix D.V. Once the written request to review files has been received, the DEH File Clerk will contact the requestor to set up an appointment. Files cannot be taken apart, rearranged, or removed from the file review area. Copies of files or portions of files can be requested, and are available for a nominal per page copying fee. For file review questions, contact the **File Review Clerk at (619) 338-2268.**

D. SAM Manual

The SAM Manual is updated each year, based upon input from quarterly Forum meetings, technical work groups, and the Steering Committee, as described next. As mentioned previously, the SAM Manual and updates are available on the SAM web page.

E. Forum Meetings

Forum meetings provide the opportunity for interaction between industry, government regulators, and consultants. These meetings take place periodically through the year. This interaction often takes the form of panel discussions concerning specific topics or informal question and answer periods. Suggestions for new work group topics are solicited at the Forum meetings through group discussions. The formation of new technical work groups (TWGs) is announced at the Forum meetings, and prospective work group members are given an opportunity to volunteer.

F. Technical Work Groups

The real work of guideline development and most of the industry/agency interaction takes place in the TWG. Experience has shown that TWGs generally require about six months to one year to complete work on a guideline. Members are asked to commit to monthly meetings for that time period, and sporadic participation is greatly discouraged. Leadership of the TWG is selected by the Steering Committee and consists of a chair and a co-chair. The committees are generally chaired by an industry representative and co-chaired by an agency representative. Usually, one of the TWG chairs provides an update of the TWG's progress at the Forum meeting.

After initial formation, the TWGs are asked to prepare a scope of work for the Steering Committee. The scope of work is intended to keep the TWG from getting sidetracked and to keep the TWG tasks to a manageable size. Draft guidelines are provided for comment at the TWG Forum meetings. The TWG will review any comments received and incorporate appropriate changes into a preliminary-final draft guideline. SAM and RWQCB staff will review and comment on the preliminary-final draft. Before the final guidelines are published, the Steering Committee will incorporate any additional comments. During the progression of the TWG, many new topics for additional TWGs are realized. The TWG is asked to submit these new topics for Steering Committee and Forum consideration.

G. Steering Committee

The Steering Committee is comprised of representatives of SAM, the Local Enforcement Agency, the Regional Water Quality Control Board (RWQCB), the Air Pollution Control District (APCD), environmental attorneys, local industry, major oil companies, the military, and members of the consulting and analytical laboratory communities.

The Steering Committee is responsible for ensuring that the goals set for the TWGs are obtainable and are met in a timely manner. The Steering Committee is also responsible for preparing the agenda for the TWG Forum meetings, selecting topics for new TWGs, and selecting leadership of the TWGs.

The Steering Committee also makes the final decision as to when draft guidelines will be published as final guidelines. As soon as these guidelines are published they are then formally incorporated into the next update of the SAM Manual.

H. Annual "Sam Update" Meeting

A meeting called the "SAM Update" is hosted annually by the DEH. At this meeting DEH, RWQCB, and State Fund staff make presentations that are intended to highlight new guidelines and clarify issues that will help the regulated community better understand the SAM Manual.

XIII. OTHER AGENCIES AND PROGRAMS

A. Regional Water Quality Control Board (RWQCB)

The mission of the RWQCB is to "preserve and enhance the quality of California's water resources, and ensure their proper allocation and efficient use for the benefit of present and future generations." The RWQCB is responsible for protecting and enforcing the many uses of water, including the needs of industry, agriculture, municipal districts, and the environment. The RWQCB develops the "basin plan" for its hydrologic areas, issues waste discharge requirements, takes enforcement action against violators, and monitors water quality. In addition, Regional Boards maintain computerized databases covering an array of regulatory activities.

The RWQCB has a stringent enforcement program. Legislation now authorizes Regional Boards to impose substantial civil liability on polluters. When enforcement problems arise, the RWQCB can determine which enforcement measures to adopt. Decisions are based on the nature of the violation, the discharger's record, and input received at public hearings. Decisions of the Regional Boards may be appealed to the State Board.

Other programs overseen by the RWQCB include water quality assessment programs, storm water discharge programs, bay protection and toxic cleanup programs, non-point source programs, and a watershed management program.

1. The San Diego RWQCB (Region 9) is located at:

   9174 Sky Park Court, Suite 100
   San Diego, CA 92123-4340
   (858) 467-2952

The San Diego RWQCB web site is located at http://www.swrqb.ca.gov/~rwqcb9/

2. The Colorado RWQCB (Region 7) is located at:

   73-720 Fred Waring Dr., Suite 100
   Palm Desert, CA 92260
   (760) 346-7491
   (760) 341-6820

   The Colorado RWQCB web site is located at http://www.swrqb.ca.gov/~rwqcb7/

B. Department of Toxic Substances Control (DTSC)

The Site Mitigation Program within the DTSC oversees the investigation and remediation of hazardous substance release sites in California. The DTSC program identifies, assesses, and carries out or oversees removal or remedial actions at sites where uncontrolled releases or potential releases of hazardous substances have occurred. If the DTSC determines that it not the appropriate agency to address the problem, the site is referred to the appropriate local, state or federal agency. The DTSC Site Mitigation Program's regional operations provide project management oversight at federal National Priority List sites (the federal Superfund Program), federal military installations, other RP-lead sites, and state-funded sites.

The local DTSC field office is located at:

5796 Corporate Avenue
Cypress, CA 90603
(714) 484-5300

The DTSC web site is located at http://www.dtsc.ca.gov

C. State Tank Funds

Federal regulations require owners and operators of USTs to demonstrate financial responsibility for cleanup of contamination and for third-party damages resulting from UST leaks. Financial responsibility means that owners or operators of USTs must ensure, through insurance coverage and/or other means, that there will be money available to help pay for the cost of corrective action and third party liability resulting from a leak from a UST.

1. The UST Cleanup Fund

The California UST Cleanup Fund (Reimbursement/Pre-Payment Fund) provides cost reimbursement to eligible UST owners, operators, or other RPs for the cleanup of petroleum hydrocarbon contamination. The Fund also helps UST owners or operators meet their federal and state financial responsibility requirements. The Fund is administered by the State Water Resources Control Board and is financed by the owners of petroleum USTs through a per gallon storage fee. The fee is based on gallons delivered to the UST and is collected by the State Board of Equalization.

For a more detailed description of the UST Cleanup Fund refer to Appendix L.

Fund applications can be obtained by calling 1-800-813-FUND, or by writing to:

State Water Resources Control Board
Division of Clean Water Programs
UST Cleanup Fund
P.O. Box 944212
Sacramento, CA 94244-2120

Information about the Fund can also be obtained on the web at:

http://swrqb.ca.gov/~cwphome/fundhome.htm

2. Small Home Heating Fuel Tanks

Residential owners of fuel oil tanks with capacities of 1,100 gallons or less for small home heating are eligible to participate in the Fund. Eligible small home heating fuel oil tanks are defined as a UST located at a residence (owner-occupied, single family dwelling or duplex at the time of the unauthorized release), that has a capacity of 1,100 gallons or less, that has stored home heating fuel oil for consumptive use on the property since January 1, 1985, and that is not located on property used for agricultural purposes after January 1, 1985.

3. The UST Loan Program

A second portion of the UST Cleanup Fund includes a loan program for the upgrade, replacement, or removal of USTs. The State Department of Commerce, not the SWRCB, is administering this at the state level. This portion of the Fund will not pay for corrective action. For further information, contact the Trade and Commerce Agency or a local administrator of the loan program.

California Trade and Commerce Agency
RUST Loan Program
801 K Street, Suite 1600
Sacramento, CA 95814
(916) 323-9879

California Southern Small Business Financial Development Corp.
600 B Street, Suite 2450
San Diego, CA 92101
Phone: (619) 232-7771
Fax: (619) 232-6743

XIV. COMMON DEFINITIONS

Aquifer. Rock or sediment in a formation, group of formations, or part of a formation, which is saturated and sufficiently permeable to transmit water to wells or springs.

Boring. A hole advanced into the ground by means of a drilling apparatus. In San Diego County, a permit is required if a boring is deeper than 20 feet, is cased, or encounters groundwater.

Brownfield. Abandoned, idled, or under-used industrial and commercial facilities where expansion or redevelopment is complicated by real or perceived environmental contamination.

Capillary fringe. The unsaturated zone immediately above the water table where water is drawn upward by capillary action.

Chemicals Of Concern (COC). Specific chemical constituents and their breakdown products that are identified for evaluation in the assessment and risk analysis process. They may include, but are not limited to, petroleum fuel products, chlorinated solvents, pesticides, and other chemicals and metals related to industrial and commercial operations.

Closure Letter. Letter or document issued by a governmental agency, possessing regulatory authority, concurring with the completion of corrective action including, but not limited to, environmental assessment and remediation activities. Most closure letters are conditional.

Comfort Letter. A letter from a regulatory agency stating the status of the site and the agency's enforcement intentions.

Corrective Action. A sequence of actions that includes the assessment of a property or facility, investigation and analysis of a release of a hazardous substance, the preparation of a plan, and the implementation of a solution to protect human health and the environment, and/or restore the current and future beneficial use of the property.

Engineering Controls. Engineered designs or structures that will be or have been incorporated into the designed development to reduce the exposure to chemicals of concern to acceptable levels. Examples can include vapor barriers, air gaps, ventilation systems etc.

Ex Situ. Means "outside place" and is often used to refer to location of activities outside the original place of origin.

Groundwater Table. Refer to water table.

Hazardous Substance. Any substance or chemical product for which one of the following applies:

- The manufacturer or producer is required to prepare a Material Safety Data Sheet (MSDS) for the substance or product pursuant to the Hazardous Substances Information and Training Act (Chapter 2.5 [commencing with Section 6360] of Part 1 of Division 5 of the Labor Code) or pursuant to any applicable federal law or regulation.
- The substance is listed as a radioactive material in Appendix B of Chapter 1 of Title 10 of the Code of Federal Regulations, maintained and updated by the Nuclear Regulatory Commission.
- The substance is listed pursuant to Title 49 of the Code of Federal Regulations.
- The material is listed in subdivision (b) of Section 6382 of the Labor Code.

Hazardous Waste. A hazardous waste means either of the following:

- A waste, or combination of wastes, which because of its quantity, concentration, or physical, chemical, or infectious characteristics may either:

  - Cause, or significantly contribute to an increase in mortality or an increase in serious irreversible, or incapacitating reversible, illness.
  - Pose a substantial present or potential hazard to human health or environment when improperly treated, stored transported, or disposed of, or otherwise managed.

- A waste, which meets any of the criteria specified in CHSC, Chapter 6.5, Section 25141.

  - "Hazardous waste" includes, but is not limited to, a Resource Conservation and Recovery Act (RCRA) hazardous waste.
  - Unless expressly provided otherwise, the term "hazardous waste" is understood to also include extremely hazardous waste and acutely hazardous waste.

In Situ. In place.

Institutional Controls. Legal or physical restrictions on the property relative to the future use of a site. These restrictions are to minimize exposure to chemicals of concern to acceptable levels. Examples include deed restrictions, environmental covenants, zoning variances, notices, and advisories.

Lead Agency. The regulatory agency providing primary oversight for the process involving site cleanup, and/or Brownfield redevelopment.

Leak. Refer to Release.

Local Oversight Program (LOP). A state program that the County of San Diego administers within San Diego County to oversee the investigation and cleanup of contamination associated with USTs.

Manifest. A bill of lading.

No Further Action Letter. See CLOSURE LETTER.

Non-Tank Site. A site with contamination source(s) other than USTs.

Perched Water. Unconfined groundwater separated from an underlying main body of groundwater by an unsaturated zone.

Phase I Environmental Site Assessment (ESA). An inquiry and evaluation of historical and current ownership/use of real estate that typically involves records review, interviews, site observations, and preparation of a report.

Phase II ESA. A follow-up investigation to the Phase I ESA that includes work plan development, completion of needed environmental, chemical analysis, and documentation of the findings with interpretations and recommendations in a report.

Phase-Separated Product. Refer to Section 5.VI.A.

Polanco Development Act. An act of the California Legislature that provides authority for redevelopment agencies to expedite environmental action in a redevelopment area.

Preliminary Remediation Goals (PRGs). Human health risk-based action levels provided by USEPA Region 9 for screening and evaluating contaminated sites (does not address groundwater or ecological receptors).

Primary Containment. The first level of containment, such as the portion of a UST that comes into immediate contact on its inner surface with the hazardous substance being contained.

Prospective Purchaser Agreement (PPA). An agreement and/or covenant not to sue, made between a regulatory agency and a prospective purchaser, addressing contamination that existed prior to the purchase.

Project Coordinator. The person or persons who have applied for regulatory oversight and who have taken financial responsibility of oversight activities. This person or persons may not necessarily be the responsible party for the site.

Purging. Refer to Section 5.VI.A.

Redevelopment Agency. A body of five to seven resident electors appointed by the mayor or the chairman of the board of supervisors, with the approval of the legislative body, to function in the community according to Part 1, Division 24 of the Health and Safety Code. The functions of the redevelopment agency may include the planning, development, replanning, redesign, clearance, reconstruction, or rehabilitation of a survey area related to residential, industrial, public, or other structures in the interest of the general welfare of the community.

Redevelopment Project. This may include any project where the site use is changing and there is a real or perceived environmental contamination associated with hazardous material or waste. Included in this definition are all sites meeting the criteria for a Brownfield.

Release. Any spilling, leaking, emitting, discharging, escaping, leaching, or disposing of a hazardous substance into or on the waters of the state, the land, or the subsurface soils.

Remediation. An action for cleaning up a site or achieving site-specific target values for site cleanup. Target values are established based on protection of human health and/or the environment. These actions may include, but are not limited to, excavation; source or product removal; soil vapor extraction; natural attenuation; pump and treatment systems; and other physical, chemical, and thermal biodegradation technologies and engineering controls.

Responsible Party (RP). An RP is one or more of the following:

- Any person who owns or operates a UST used for the storage of any hazardous substance;
- In the case of any UST no longer in use, any person who owned or operated the UST immediately before the discontinuation of its use;
- Any owner of property where an unauthorized release of a hazardous substance from a UST has occurred; and
- Any person who had or has control over a UST at the time of or following an unauthorized release of a hazardous substance.

Note: Authorities cited are Sections 25299.77 and 25299.37, Health and Safety Code; and 40 CFR Section 280.12.

Responsible Party. Means any person, except for an independent contractor, who agrees to carry out a site investigation and remedial action at a hazardous materials release site for one of the following reasons:

- The person is liable under state or local law, ordinance, or regulation.
- The site investigation and remedial action is required by state or local law, ordinance, or regulation.

Remedial Action Agreement. A voluntary agreement between the project coordinator and the local agency to investigate and remediate the site. Both DTSC and the RWQCB are provided written notification prior to implementation of the remedial action agreement.

Risk Assessment. A quantitative/qualitative analysis of the potential adverse human health effects caused by exposure to chemicals of concern. This can include impacts to soil, groundwater, surface water and/or air. In some cases, an evaluation of ecological risk may be required that addresses the potential effects on plants and animals rather than on human health.

Risk-Based Corrective Action. A framework in which exposure and risk assessment practices are integrated with site assessment activities and remedial action selection to ensure that the chosen action is protective of human health and the environment.

Secondary Containment. The level of containment external to, and separate from, the primary containment.

Site Assessment. Collection, analyses, and evaluation of environmental data (e.g., soil, soil vapor, or groundwater samples) to determine the horizontal and vertical extent of contamination and its impact, if any, on human health and safety and/or the environment.

Site Designation. A California Environmental Protection Agency (Cal-EPA) process where the administering agency (state or local) is appointed to coordinate other agency requirements for a given site.

Stakeholders. Individuals, organizations, governmental agencies, and other entities that have an interest in or are directly affected by a Brownfield property and its redevelopment. Stakeholders include, but are not limited to, owners, buyers, developers, lenders, insurers, government and regulatory agencies, and community groups.

Tank Integrity Test. A test method used to ascertain the physical integrity of a UST. The term includes only test methods that are able to detect a leak of 0.1 gallons per hour with a probability of detection of at least 95 percent and a probability of false alarm of 5 percent or less. The test method may be either volumetric or non-volumetric in nature. A volumetric test method is used to report leak rate, whereas a non-volumetric test method is used to report whether a substance or physical phenomenon is detected, which may indicate the presence of a leak.

Unauthorized Release. Any release of any hazardous substance that does not conform to CHSC, Chapter 6.7, Section 25295, 25295.5, and 29296.

UST. UST is any one or combination of tanks, including pipes connected thereto, which is used for the storage of hazardous substances and which is substantially or totally beneath the surface of the ground.

The following USTs or structures are exempt from the monitoring and tank closure requirements. To establish that a UST meets the exemption requirements, the UST owner/operator must submit an exemption form for DEH review. Written concurrence or disapproval will be provided after review of the application and a site investigation by DEH.

Farm and Home Heating Fuel Tanks

Two types of farm and home heating fuel tanks are considered exempt from the monitoring requirements of CCR, Title 23. These tanks are defined as follows.

- Farm tanks of less than 1,100 gallons which are located on a farm and which store motor vehicle fuel used primarily for agricultural purposes and not for resale.
- On-site home heating fuel tanks of less than 1,100 gallons used for heating purposes on the premises.
- When a farm or home heating fuel tank changes from an exempt use to a regulated use it becomes subject to UST regulation.

Process Flow Through Tanks

Tank systems in which a waste stream is treated through a series of compartments, and the final effluent is discharged to the sewer under permit, are generally exempt from the UST regulations. An example would be an oil/water separator tank. Single tanks below the surface of the ground in which hazardous wastes or materials are treated or stored, and where solids may collect and settle, or tanks which store an alkaline or acidic compound, are not exempt and are regulated by DEH. These include tanks used for metal plating and finishing.

Sumps, Pits, Ponds, or Lagoons

A sump, pit, pond, or lagoon is defined as a depression in the ground that depends solely on its surrounding earthen material for structural support and containment of fluids. However, a sump that is composed of concrete or other similar materials, and relies on these materials for independent structural support, is not exempt from UST regulation. The definition of a sump is very broad; therefore, DEH will review sump closures on a case-by-case basis. In general, if the sump is regulated under the Clean Water Act, it is exempt from UST regulation. All other sumps or field-constructed tanks that hold or previously held a hazardous substance will be subject to UST requirements.

Vaulted Tanks

Vaulted tanks are tank systems that are located in a below-grade structure (vault). To be exempt, the entire tank system, including piping, must be accessible for direct viewing.

Waste-Water Treatment Tanks/Septic Tank

Waste-water treatment tanks are defined as USTs located inside a public or private waste-water treatment facility. The definition includes holding tanks, separators, clarifiers, and filtration tanks that do not continuously contain hazardous substances.

Liquefied Petroleum Gas Tanks

USTs that contain butane, isobutane, propane, butylene, or mixtures of the above, in a liquid or gaseous state, are exempt from UST regulation.

Hydraulic Lift Tanks

USTs that hold hydraulic fluid used for operational purposes and that have a capacity of 110 gallons or less are exempt from UST regulation.

Liquid Asphalt Tanks
USTs that contain steam-refined asphalt are exempt from UST regulation.

Tanks Containing Radioactive Substances
The Nuclear Regulatory Commission regulates tanks containing radioactive material.

Emergency Containment Tanks
Emergency spill/overflow containment structures or UST systems that are kept empty to receive accidental spills are exempt from UST regulation.

Drums Located in Basements
Drums that contain 55 gallons or less of a hazardous substance stored in basements are exempt from UST regulation.

Treatment, Storage and Disposal Facilities Tanks
To be considered exempt, USTs that contain hazardous substances and are located at Treatment, Storage, and Disposal facilities must be directly regulated by the California EPA as part of the Treatment, Storage, and Disposal Facility permit.

Tanks Containing Heat Transfer Fluids
USTs containing heat-transfer fluids (such as ethylene glycol, propylene glycol, and inorganic salts) for use in a closed-loop cooling system may be exempt from UST regulation. DEH will evaluate facilities wishing to store heat-transfer fluids in UST systems on a case-by-case basis.

Unsaturated Zone. The zone between the land surface and the water table, also known as the zone of aeration or the vadose zone. It includes the root zone, intermediate zone, and the capillary fringe.

Vadose Zone. The zone containing water under pressures less than that of the atmosphere, including soil water, intermediate vadose zone, and capillary water. This zone is limited above by the land surface and below by the surface of the zone of saturation (the water table).

Voluntary Assistance Program. A County of San Diego voluntary program that provides consultation and overview on Brownfield and other projects associated with environmental contamination.

Water Table. The surface in an unconfined aquifer or confining bed at which the pore water pressure is atmospheric.

Well Development. Refer to Section 5.VI.

Wells. Wells are borings, hydropunches, cone penetrometer testing (CPT) test tubes, Site Characterization and Analysis Penetrometer System (SCAPS) test holes, groundwater monitoring wells, vadose monitoring wells, groundwater recovery wells, vapor extraction or inlet wells, observation wells, and piezometers.